Citation:

Dewey KG. Impact of breastfeeding on maternal nutritional status. *Adv Exp Med Biol.* 2004;554:91-100.

PubMed ID: 15384569

Study Design:

Systematic Review

Class:

M - Click here for explanation of classification scheme.

Research Design and Implementation Rating:

NEUTRAL: See Research Design and Implementation Criteria Checklist below.

Research Purpose:

To address the impact of lactation on weight loss postpartum and on maternal micronutrient status.

Inclusion Criteria:

- Only data for generally healthy women were considered
- Observational studies had to meet 2 quality criteria to be included:
  - Sample size of >20 women per feeding group (lactating vs nonlactating)
  - Assessment of postpartum weight change, or assessment of weight retention relative to prepregnancy status if the analysis controlled for pregnancy weight gain

Exclusion Criteria:

Article exclusion criteria not described.

Description of Study Protocol:

Recruitment

Databases searched and search terms used were not described.

Design: Systematic review

Blinding used (if applicable): not applicable

Intervention (if applicable): not applicable

Statistical Analysis: not completed

Data Collection Summary:

Timing of Measurements

Not applicable.

Dependent Variables

- Weight loss postpartum
- Maternal micronutrient status

Independent Variables

- Lactation
- Definition of breastfeeding varies greatly among studies

Control Variables

- Maternal age
- Ethnicity
- Education
- Income
- Prepregnancy BMI
- Pregnancy weight gain
- Parity
- Interbirth interval
- Physical activity
- Dietary practices
- Intentional restriction of energy intake

Description of Actual Data Sample:

Initial N: initial number of identified studies unclear

Attrition (final N): 26 references included

- 2 experimental studies (141 mothers in the first study, 119 mothers in the second study)
- 13 observational studies, 7 which measured weight change, 6 which estimated weight change

Age: not reported

Ethnicity: not reported

Other relevant demographics:

Anthropometrics

Location: international studies

Summary of Results:

Key Findings

- Results regarding the impact on weight loss have been conflicting
- This may be due to differences in study quality
- Of 6 observational studies in which postpartum weight change was estimated (rather than measured directly), only one showed a significant association between breastfeeding and greater weight loss
- By contrast, 6 of the 7 studies in which postpartum weight change was measured showed greater weight or fat loss in women who breastfed longer, particularly at 3 to 6 months postpartum
- The only study that did not report a significant association between greater breastfeeding and weight loss was a study that did not account for the exclusivity of breastfeeding
- Among 5 studies, the difference in weight loss during the first year postpartum between the nonlactating group and the group who lactated the longest ranged from 0.6 to 2.0 kg
- The results of the higher quality studies are consistent with 2 experimental studies conducted in Honduras, which demonstrated that the degree of breastfeeding affects the rate of weight loss
- Only about 10% of the mothers in the Honduras studies had a low BMI (<19 kg/m^2) so weight loss was not necessarily disadvantageous for most of the women
- Thus, it appears that breastfeeding does enhance the rate of weight loss postpartum, but the effect is relatively small and may not be detectable in studies that lack adequate statistical power, have imprecise data on postpartum weight change, or do not account for the exclusivity and/or duration of breastfeeding
- There is very little information with regard to micronutrient status during lactation
- Nutrient requirements for vitamins A, B_6, and C, and for iodine and zinc are increased by more than 50%, but lactation may actually be protective against maternal iron deficiency

Author Conclusion:

The studies reviewed herein suggest that breastfeeding enhances the rate of weight loss postpartum, but the effect is relatively small and often not detectable in studies that lack adequate statistical power, have imprecise data on postpartum weight change, or do not account for the exclusivity and/or duration of breastfeeding. More research is needed on the effects of lactation on maternal nutritional status and on strategies for optimizing nutrient intake to meet the needs of both the mother and her infant.

Reviewer Comments:

Databases searched and search terms not described. Initial number of identified studies unclear. Definition of breastfeeding varied among studies.

Research Design and Implementation Criteria Checklist: Review Articles

Relevance Questions		
1.	Will the answer if true, have a direct bearing on the health of patients?	Yes
2.	Is the outcome or topic something that patients/clients/population groups would care about?	Yes

3.	Is the problem addressed in the review one that is relevant to nutrition or dietetics practice?	Yes
4.	Will the information, if true, require a change in practice?	Yes

Validity Questions

1.	Was the question for the review clearly focused and appropriate?	Yes
2.	Was the search strategy used to locate relevant studies comprehensive? Were the databases searched and the search termsused described?	No
3.	Were explicit methods used to select studies to include in the review? Were inclusion/exclusion criteria specified and appropriate? Were selection methods unbiased?	No
4.	Was there an appraisal of the quality and validity of studies included in the review? Were appraisal methods specified, appropriate, and reproducible?	Yes
5.	Were specific treatments/interventions/exposures described? Were treatments similar enough to be combined?	Yes
6.	Was the outcome of interest clearly indicated? Were other potential harms and benefits considered?	Yes
7.	Were processes for data abstraction, synthesis, and analysis described? Were they applied consistently across studies and groups? Was there appropriate use of qualitative and/or quantitative synthesis? Was variation in findings among studies analyzed? Were heterogeneity issued considered? If data from studies were aggregated for meta-analysis, was the procedure described?	Yes
8.	Are the results clearly presented in narrative and/or quantitative terms? If summary statistics are used, are levels of significance and/or confidence intervals included?	Yes
9.	Are conclusions supported by results with biases and limitations taken into consideration? Are limitations of the review identified and discussed?	Yes
10.	Was bias due to the review's funding or sponsorship unlikely?	???